

CLAIMS

1. A defect management information setting method  
for setting defect management information for managing a  
5 defect area in a data area of an information recording medium,  
comprising:

a step of dividing the data area into a plurality of  
partial areas such that logical addresses continue and setting  
defect management information for each partial area.

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2. The defect management information setting method  
as claimed in claim 1, wherein the defect management  
information includes information on determination criteria for  
detecting a defect area, and the determination criteria is  
15 independently set for each of at least two areas in the  
plurality of partial areas.

3. The defect management information setting method  
as claimed in claim 1 or 2, wherein the plurality of partial  
20 areas include a partial area where defect management is not  
performed.

4. The defect management information setting method  
as claimed in claim 3, wherein the information recording  
25 medium is a disc-like medium, and the partial area where the

defect management is not performed is provided in an inner periphery side of a partial area where defect management is performed.

5               5. The defect management information setting method as claimed in claim 1 or 2, wherein the defect management information includes information on a replacement area of the defect area, and

the replacement area is set for each partial area.

10              10         6. The defect management information setting method as claimed in claim 3, wherein the defect management information includes information on a replacement area of the defect area, and

15              15         the replacement area is set for each of partial areas of the plurality of partial areas excluding a partial area where the defect management is not performed.

20              20         7. The defect management information setting method as claimed in claim 5, wherein the replacement area is provided between two partial area, and the logical addresses continue between a partial area right before the replacement area and a partial area right after the replacement area.

25              25         8. The defect management information setting method

as claimed in claim 5, wherein, in at least one partial area of the plurality of partial areas, a corresponding replacement area is provided adjacent to the at least one of the partial area.

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9. The defect management information setting method as claimed in claim 5, wherein, in at least one partial area of the plurality of partial areas, corresponding replacement areas are provided in the at least one partial area in a distributed manner.

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10. The defect management information setting method as claimed in claim 1, wherein the step of setting the defect management information is performed when initializing the information recording medium.

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11. The defect management information setting method as claimed in claim 1, wherein a method for dividing the data area and a defect management scheme for each partial area are set by a user.

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12. The defect management information setting method as claimed in claim 1, further comprising a step of recording the defect management information on a predetermined area of the information recording medium.

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13. The defect management information setting method  
as claimed in claim 1, wherein the defect management  
information includes an identifier for identifying a data  
5 structure of the defect management information.

14. A recording method for recording data on a data  
area of an information recording medium, comprising:

a step of determining, based on the defect management  
10 information set by the defect management information setting  
method claimed in claim 13, whether an identifier included in  
the defect management information corresponding to a partial  
area to which an area where the data is to be recorded belongs  
is known; and

15 a step of permitting data recording when the  
identifier is known as a result of the determination.

15. A defect management method for managing a defect  
area in a data area of an information recording medium,  
20 comprising:

performing defect management of a recording area  
where data is recorded based on information on the recording  
area and defect management information that is set by the  
defect management information setting method as claimed in  
25 claim 1.

16. A program used in an information recording apparatus for recording data on an information recording medium, the program causing a control computer for the  
5 information recording medium to execute:

a step of dividing a data area into a plurality of partial areas such that logical addresses continue and setting defect management information for each partial area.

10 17. The program as claimed in claim 16, the program further causing the control computer to execute a step of recording the defect management information on a predetermined area of the information recording medium.

15 18. The program as claimed in claim 16 or 17, wherein the defect management information includes an identifier for identifying a data structure of the defect management information, and the program further causes the control computer to execute:

20 a step of determining, based on the defect management information set by the step of setting, whether the identifier corresponding to a partial area to which an area where the data is to be recorded belongs is known; and  
a step of permitting data recording when the  
25 identifier is known as a result of the determination.

19. The program as claimed in claim 16, the program  
further causing the control computer to execute:

a step of performing defect management of a  
5 recording area where data is recorded based on defect  
management information that is set by the step of setting and  
information on the recording area.

20. A computer readable recording medium recording  
10 the program as claimed in claim 16.

21. An information recording apparatus for  
recording data on an information recording medium, comprising:

setting means for dividing a data area of the  
15 information recording medium into a plurality of partial areas  
such that logical addresses continue and setting defect  
management information for each partial area;

recording means for recording data on the data area;  
and

20 defect management means for performing defect  
management for a recording area where the data is recorded  
based on information on the recording area and the defect  
management information.

25 22. The information recording apparatus as claimed

in claim 21, wherein the defect management information includes information on determination criteria for detecting a defect area, and the setting means set the determination criteria independently for each of at least two areas in the 5 plurality of partial areas.

23. The information recording apparatus as claimed in claim 21 or 22, wherein the plurality of partial areas include a partial area where defect management is not 10 performed.

24. The information recording apparatus as claimed in claim 23, wherein the information recording medium is a disc-like medium, and the partial area where the defect 15 management is not performed is provided in an inner periphery side of a partial area where defect management is performed.

25. The information recording apparatus as claimed in claim 21 or 22, wherein the defect management information 20 includes information on a replacement area of the defect area, and

the setting means sets the replacement area for each partial area.

25 26. The information recording apparatus as claimed

in claim 23, wherein the defect management information includes information on a replacement area of the defect area, and

the setting means sets the replacement area for each  
5 of partial areas of the plurality of partial areas excluding a partial area where the defect management is not performed.

27. The information recording apparatus as claimed  
in claim 25, wherein the replacement area is provided between  
10 two partial area, and the logical addresses continue between a partial area right before the replacement area and a partial area right after the replacement area.

28. The information recording apparatus as claimed  
15 in claim 25, wherein, in at least one partial area of the plurality of partial areas, a corresponding replacement area is provided adjacent to the at least one of the partial area.

29. The information recording apparatus as claimed  
20 in claim 25, wherein, in at least one partial area of the plurality of partial areas, corresponding replacement areas are provided in the at least one partial area in a distributed manner.

25 30. The information recording apparatus as claimed

in claim 21, wherein the setting means sets the defect management information when initializing the information recording medium.

5                 31. The information recording apparatus as claimed in claim 21, wherein a method for dividing the data area and a defect management scheme for each partial area can be set by a user.

10                 32. The information recording apparatus as claimed in claim 21, wherein the recording means records the defect management information on a predetermined area of the information recording medium.

15                 33. The information recording apparatus as claimed in claim 21, wherein the defect management information includes an identifier for identifying a data structure of the defect management information.

20                 34. The information recording apparatus as claimed in claim 33, wherein the recording means records the data when an identifier included in the defect management information corresponding to a partial area to which an area where the data is to be recorded belongs is known.